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ABSTRACT

Instructional or teaching behaviors can be conceptualized as involving four distinct modes: the questioning mode, the oral mode, the support mode, and the critical mode. Each mode contains specific behavioral elements, and each mode contributes a particular or "selected" element to the quadrilateral structures (called quadrograms) in a given sequence. The function of each element in each structure must include not only its contribution to the total structure but also its consequences for each consecutive element in the consecutive structures. (Author)

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Employing Behaviors in a Teaching Strategy: "Quadrilateralizing In the Cognitive Domain".

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Instructional or teaching behaviors can be conceptualized as involving four (4) distinct modes: The questioning mode, the oral mode, the support mode and the critical mode. Each mode contains specific behavioral elements and each mode contributes a particular or "selected" element to the quadrilateral structures (called quadrograms) in a given sequence. The function of each element in each structure must include not only its contribution to the total structure but also its consequences for each consecutive element in the consecutive structures. Bruner[1] notes that "A body of knowledge should be structured so that it can be most readily grasped by the learner (and) should be sequenced effectively in presenting the material to the learner".

[1] Jerome S. Bruner, Toward a Theory of Instruction, W.W. Norton and Co. 1966, p. 41.

Behavioral modes

Questioning Mode	Oral Mode	Support Mode	Critical Mode
Cognitive Memory	To convince	Analogy	Classifying
Evaluative	To Persuade	Example	Grasping Meanings
Convergent	To Understand	Restatement	Predicting
Divergent	To Entertain	Comparison & Contrast	Finding Assumptions
Generative	To Accept Data	Definition	Identifying
Telling	To appreciate	Explanation	Noting Ambiguities and Contradictions
Inquiry	To Bring Action	Statistics	Conditional Inferring
	To Inspire	Authority-Testimony	Recognizing
	To Hypothesize	Argument From Example	Relating/reporting
	To Impress	Fact	Intuiting
		Description	Substituting
			Articulating
			Summarizing-Concluding
			Judging whether conclusions following observations arereliable
			Attempting to apply principles

Domains

Sensory

Affective

Cognitive

Psycho-motor

Question Mode

Cognitive Memory questions - The simplistic questions (those which depend largely upon answers of retrieved information. For example: According to historians, in what year did the American Revolutionary War begin?

Evaluative Questions - provide material for having the student make a value judgment. For example: Does the individual's right to know take precedence over the governments's right to classify documents? Is this also true when the government declares an "emergency"?

Convergent Questions - The teacher asks the student to compare or contrast, to relate two or more things in a significant manner; to follow some formal procedure for solving problems.

Divergent Questions - The teachers aks the pupil to predict, to develop hypotheses, or to speculat on the outcomesof actions in a hypothetical situation that does not permit evalution of student responses as right or wrong.
Divergent questions are used to open discussions - the course of which may not be predicted.

Generative questions - The teachers poses questionx, the prime purpose of which am is to promote relationships: [1]

1. Comparative relationships
2. Relationship of implication.
3. Relationship of an inductive generalization to supporting evidence.
4. Relationship of a vlue, skill or definition to an example of its use.
5. Relationship numerically.
6. Cause and Effect relationship.

Example: Compare the relations between the English colonies in North American and England between 1750 and 1783 with the relations between the states and the federal government in the U.S. from 1789 to 1865.

[1]Morris H. Sanders Classroom Questions, Harper and Row, 1966 p. 43

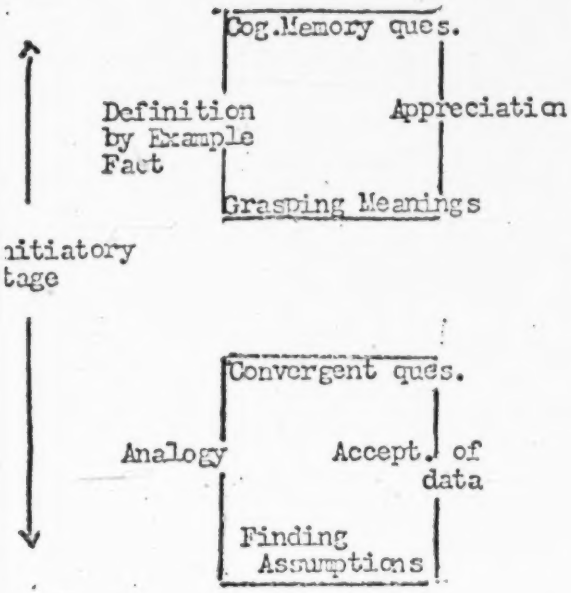
Telling question - Brings together the salient points of a discussion or a lecture and bears a "telling" effect on the both on the phenomena and upon the students. It may take the form of a chain of rhetorical questions. Burns[1] describes the telling questions as ones which "help convert what is puzzling about a situation into something that can be thought about intelligently because there is a close relationship between the telling questions and key concepts, and conceptual systems." It has the function of facilitating inquiry.

Inquiry question - What have we done? How did we do it? What have we accomplished? Where might we proceed?

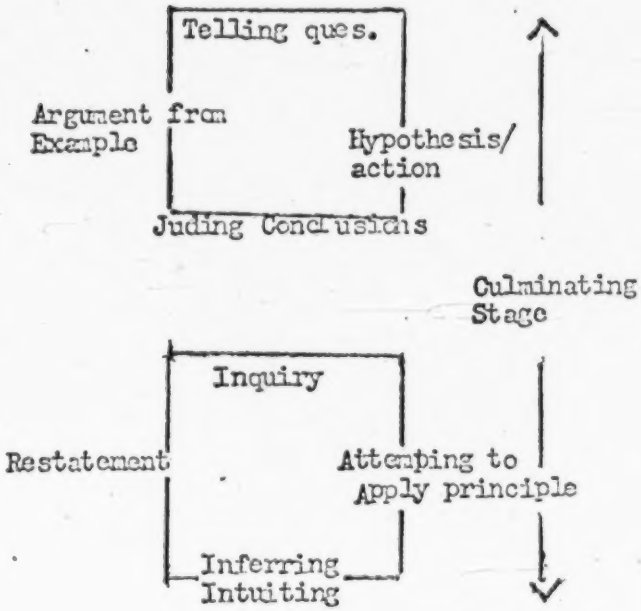
[1] Hobert W. Burns, "Response to the Presidential Address", Educational Theory Fall, 1970, p. 329.

Employing modes in designing quadrograms
An Example:

Monday-Friday (1st week)



Monday-Tuesday (2nd week)



Each quadrogram represents four (4) elements of four modes proceeding from the simple to the complex through three (3) stages.

The design of each series of quadrograms must be based upon specific, pertinent and intended instructional outcomes related to classroom investigations. Central to the utilization of multiple combinations of elements of the various behavioral modes is the hierarchial strategies which they afford. Thus, this system aids the creative teacher by providing multiple instructional options for his carrying on his work in the classroom.